WTO Pressures for Agricultural Policy Change

An impending trade round that further liberalizes trade does not appear to be a threat to the existence of the CAP but could constrict some commodity policies. EU enlargement does not necessarily push the CAP into difficulty with the current WTO restrictions either, although some commodities appear to be problematical for the CAP. The 1992 CAP Reform, Agenda 2000, and CEE market measures have alleviated some of the potential pressures on the CAP and further reforms along the line of the 1992 reforms and Agenda 2000 should put the EU in a good position to defend the CAP. [Todd Morath (dkelch@econ.ag.gov)]

Agenda 2000 reforms and EU enlargement have implications for the EU's ability to meet its Uruguay Round Agreement on Agriculture (URAA) commitments, and will affect EU negotiators' ability to determine the outcome of the next round of multilateral negotiations. The next round of World Trade Organization (WTO) negotiations will attempt to further liberalize agricultural trade by limiting export subsidies and domestic support and increasing market access. This article focuses on WTO pressures on EU agricultural policy through its WTO commitments, particularly the aggravation of internal supply-demand imbalances and pressure on the EU's system of intervention prices (the price at which the EU will accept commodities into storage). The article also looks at whether EU market access commitments will lead to increased imports.

An analysis of the Uruguay Round tariff reductions reveals that such reductions are not expected to create pressure on EU intervention or internal balances. Further tariff reductions for most products in the EU will be needed in the coming WTO trade talks to increase market access to the EU. The EU could also agree to a large reduction in its domestic support ceiling in the upcoming round of trade talks. Analysis shows that the EU would still be under its domestic support ceiling because Agenda 2000 reforms are projected to keep the EU's combined Amber Box (unacceptable payments-see glossary) and Blue Box payments (transitionary payments temporarily acceptable-see glossary) below this level.

For export subsidies, it appears that the EU's volume export ceilings (only 79 percent of 1986-90 exports can be subsidized) will continue to be binding for a number of products, but only rye will be in chronic excess supply. The EU will likely be able to agree to substantial reductions in its export subsidy ceilings but only for wheat and other commodities such as pork and poultry that benefit from lower feed prices. However, all commodities are subject to the volume and value ceilings that constrain exports of commodities such as beef, dairy products, and coarse grains.

The prospective EU enlargement to include the Central and East European (CEE) countries of Poland, Hungary, and the Czech Republic does not greatly alter the outcome for the EU as a whole. If the Blue Box is measured against the EU's Aggregate Measure of Support (AMS- see glossary) ceiling, an enlarged EU might have more difficulty meeting its URAA domestic support commitments, although combined EU Amber and Blue Box support is still expected to remain below the final ceiling. Enlargement to include the CEE countries could increase pressure on the EU's export subsidy volume ceiling for beef, dairy products, pork, and poultry, but is expected to give the EU more flexibility in staying below its export subsidy ceilings for coarse grains. Finally, enlargement should have a largely neutral effect in terms of market access opportunities in the region.

Different approaches are used to gauge the relevance of the EU's market access, domestic support, and export subsidy commitments. With respect to EU tariff reductions, projections of price gaps between the EU and world market are compared with final EU over-quota tariffs (see glossary) to assess whether these tariffs will remain too high to increase market access. In the area of domestic support, the EU's price and income supports are compared to the EU's final ceiling (65.1 billion euros), using model projections of EU supply under the Agenda 2000 scenario (see previous article, "An Analysis of Agenda 2000"). It is also estimated that Agenda 2000 price reductions will relieve the current pressure from the EU's WTO export subsidy ceilings. The estimates are based on 1995-97 data for average EU export subsidies per ton and changes in EU prices as projected in the Agenda 2000 modeling scenario.

EU Tariff Reductions Not Expected To Increase Market Access

In the Uruguay Round, countries bound their tariffs at maximum levels and are reducing them over the implementation period (36 percent on average between 1995/96 and 2000/01

for developed countries).[5] In the EU, increased market access could generate pressures for policy change for those products supported through intervention mechanisms, i.e. grains, beef, butter, and skim milk powder. Increased imports in combination with high production can create pressure on EU balances; the tariff-inclusive import price has to pull the domestic market price below intervention levels to trigger intervention purchasing. If the pressure is sustained, stock accumulation would be chronic, making the intervention price untenable.

To determine whether EU tariff reductions under the Uruguay Round will lead to increased market access and generate pressure for EU policy change, it is necessary to examine the extent to which there is "water" in the EU's tariffs for agricultural goods. A "watery" tariff is one that is greater than needed to bridge the gap between the domestic and world price (in other words, a tariff is prohibitive to the extent it is watery). This is important because lowering the tariff will not increase market access until the tariff equals the percentage gap between domestic and world price. There are different ways that a tariff may become "watery." One was the use of 1986-88 prices, which were significantly higher than the prices resulting from the 1992 package of EU CAP reforms, to calculate the base tariffs in the Uruguay Round. So-called "dirty tariffication"—e.g., calculating a base tariff using the lowest import price rather than an average import price—may also have contributed to watery tariffs for some commodities.

Methods

Calculating the margin of water is an empirical issue. Historical domestic and world prices are needed to measure the tariff equivalent (or percentage price gap), which is compared to the over-quota tariff applied during the same period. Representative world *cif* prices (inclusive of insurance and freight costs) were selected from among countries that are large producers and exporters of a given product, of comparable quality to a EU product, and at a level in the marketing chain that did not include direct or hidden subsidies. Where a farm gate, wholesale, or *fob* price was selected, a 10-percent freight/insurance margin was added to approximate the costs involved in shipping the product to Rotterdam.

The EU applies tariffs on grain imports based on a reference price system. The EU adjusts its tariffs so that the duty-paid import price of wheat, barley, rye, corn, and sorghum is maintained at 55 percent above the EU intervention price. However, the EU tariff can never exceed the maximum level stipulated in the URAA (from 2000/01, 93-95 euros per ton for common wheat, corn, barley, and rye, and 148 euros per ton for durum wheat). Because the tariff paid increases as the import price decreases, this regime distorts market prices most for low-quality grades and least for high-quality grades (the EU also maintains a tariff rebate for high-quality wheat and barley). In 1995-97, the EU imported durum and high-quality wheat, and malting barley in volumes that exceeded reduced-duty tariff-rate quotas because of domestic needs.

EU imports of meats, eggs, and dairy products are subject to specific tariffs (i.e., in euros per unit). EU tariff equivalents for meats, eggs, and dairy products in 1995-97 varied widely by product (see fig.10). EU beef and butter—two commodities subject to EU price support policies—were priced higher relative to world markets than were pork, poultry, and eggs, commodities not subject to EU price support policies, resulting in higher tariff equivalents. The EU intervention price for skim milk powder (SMP)—which is a good approximation of the EU market price—averaged only 10 percent higher than the world cif price. The markedly different tariff equivalent calculations for butter and SMP reflect the EU policy of subsidizing returns on milk production mostly through the butter intervention price.

Results

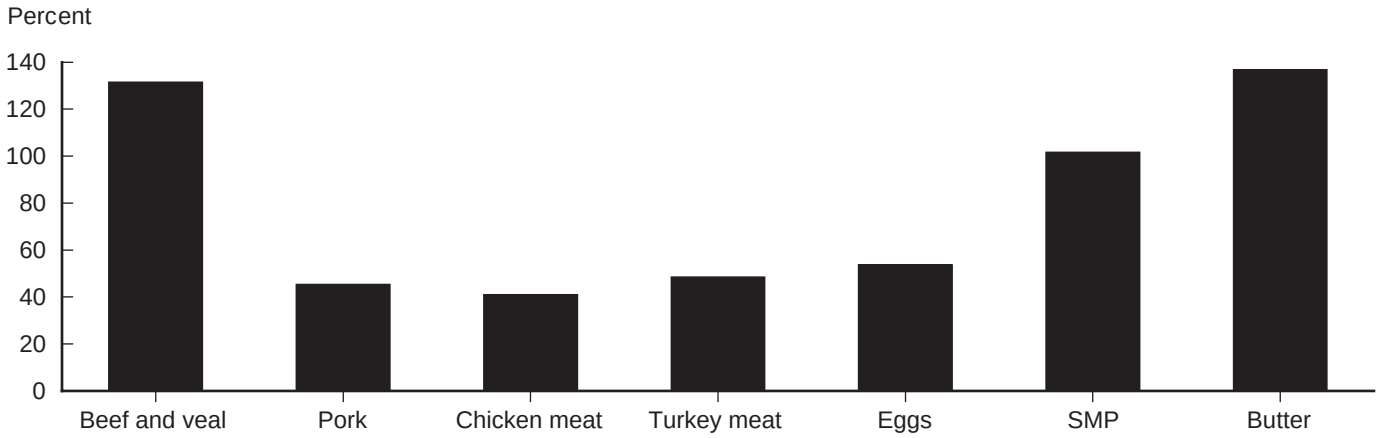
A comparison of EU tariff equivalents with applied tariffs during 1995-97 reveals a substantial margin of water in the EU's tariffs for meats and dairy products (fig.11). Between 1995 and 1997, the EU's tariffs were very watery (i.e., much larger than necessary to bridge EU-world price gaps) for SMP, butter, and eggs. For SMP and eggs, this stems from a small price gap (tariff equivalent) and high tariffs. For butter, although the price gap was large, applied tariffs were in excess of 130 percent between 1995 and 1997. There was also some wateriness in the EU's tariffs for pork and poultry, with over-quota tariffs substantially higher than the tariff equivalents.

The wateriness of the EU's beef tariffs is perhaps most difficult to gauge, because prices differ substantially between the major exporting countries, particularly the United States and Argentina. The wateriness of the EU tariffs for beef is much lower if only an Argentine price (Argentina is the lowest cost exporter) is used, while it is substantially higher if a composite Argentine/U.S. price is used.

In theory, if an over-quota tariff is watery, imports should take place only within the reduced tariff-rate quota (TRQ-see glossary) volumes. In table 9, the import data relative to the TRQ volumes support the wateriness of tariff calculations for all commodities except chicken meat. The case of chicken meat illustrates why it is important to check any water calculations. While a comparison of wholesale broiler prices suggests there is water in the EU tariffs for chicken meat, the EU actually imported frozen boneless chicken well above TRQ volumes in all 3 years of the study. In 1995-97, the EU imported 46,000, 76,000, and 83,000 tons, respectively, against an annual 15,500-ton TRQ. Since 1995, the EU has twice invoked a safeguard on imports of frozen boneless chicken meat.

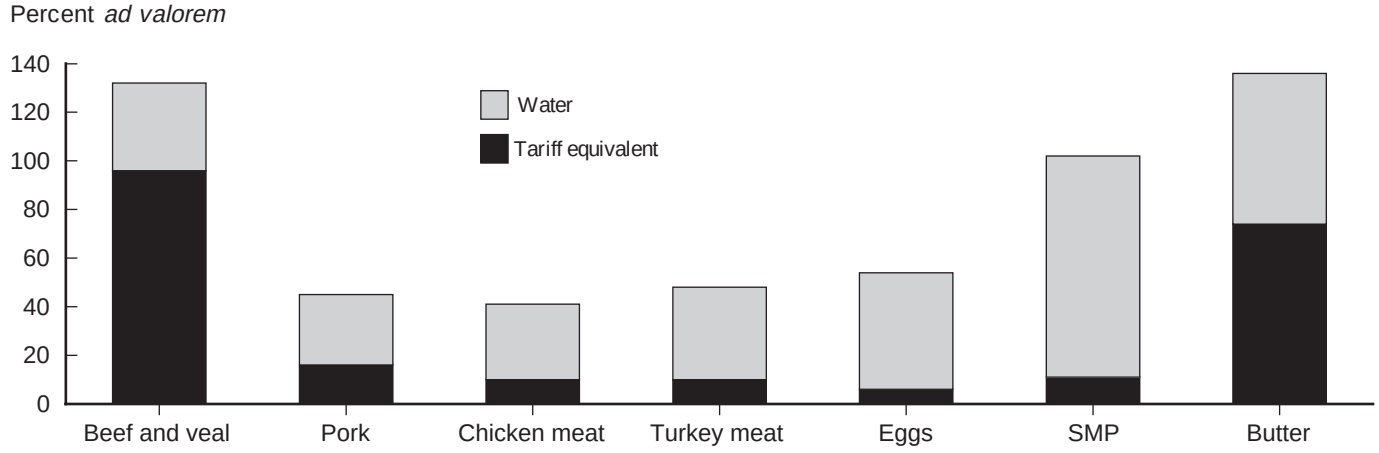
[5] For general information on WTO market access disciplines and changes to EU market access policies as a result of the Uruguay Round, see the WTO Briefing Room on the ERS website (http://www.econ.ag.gov/briefing/wto/).

Figure 10
EU tariffs for Meat, Eggs, and Dairy Products: 1995-97 Average



Source: Economic Research Service, USDA.

Figure 11
Water in EU Tariffs for Selected Commodities, 1995-97



Source: Economic Research Service, USDA.

Table 9--Comparison of EU imports to TRQ volumes for meats and dairy products, 1995-97

Commodity	1995			1996			1997		
	Value	Volume	TRQs	Value	Volume	TRQs	Value	Volume	TRQs
	Mil. euros	1,000 tons		Mil. euros	1,000 tons		Mil. euros	1,000 tons	
Beef and veal	694	162	234.4	682	180	235.6	786	200	236.3
Pork	39	14	75.0	89	37	90.7	116	46	102.4
Poultry meats	456	145	119.7	483	187	127.1	572	209	135.5
Chicken meat	220	78	65.4	271	121	70.2	337	140	74.7
Turkey meat	31	11	13.1	32	16	13.8	37	19	15.8
Eggs	3	3	81.7	5	5	95.2	6	7	108.7
Powdered milk	82	51	57.0	95	65	62.9	112	78	69.7
SMP	65	42		85	59		101	72	
Butter	162	72	83.5	167	94	85.8	168	81	88.3
Cheese, of which	393	83		405	95		441	111	
From Switzerland	303	48		280	47		274	49	
Cheddar	39	16	17.3	53	18	19.7	84	27	22.1
Cheese for processing	16	5	8.5	23	9	11.7	26	12	14.9

Source: Import data are from Eurostat; TRQ data are from Schedule CXL, Europe Agreements, and CAP Monitor.

The discrepancy highlights a shortcoming in the price comparisons for meats, namely that carcass prices do not capture certain processing costs, for example the de-boning of meat. Inexpensive labor gives countries such as Brazil and Thailand a cost advantage in labor-intensive processes such as the de-boning of poultry cuts, so that it is profitable to export to the EU even in the presence of a 50-percent over-quota tariff. Based on an inspection of EU import data, it does not appear that over-quota imports are taking place in any other category of chicken meat besides frozen boneless cuts.

How does implementation of Agenda 2000 price cuts and full Uruguay Round tariff reductions affect the wateriness of the EU's tariffs? The margin of water is determined by changes in both the tariff equivalent (percentage price gap) and the over-quota tariff. The price projections forecast a narrowing EU-world price gap for all products except poultry meats. Agenda 2000 price cuts will further narrow the price gap. These factors reduce the tariff equivalent and thus increase the margin of water. On the other hand, full Uruguay Round tariff reductions and projections of a strengthening euro act to decrease the margin of water, because they make imports cheaper.

Agenda 2000 will lower the grains intervention price to 101.3 euros per ton, which effectively reduces the maximum duty-paid import price for grains to 157 euros per ton. While lowering the EU grains intervention price will eliminate the margin of water for grains priced above 157 euros per ton (155 percent of the intervention price), it will reduce but not eliminate the margin of water for grains priced between 101.3 and 157 euros per ton, and will not reduce this margin for grains priced under 101.3 euros per ton (maintaining a 55-percent margin of water).

Figure 12 displays projections of water in EU tariffs for meats, eggs, and dairy products, taking into account the full implementation of Uruguay Round tariff reductions and Agenda 2000 price cuts. Analysis suggests there will be no or little increase in EU market access for most products. This is partly due to lower intervention prices under Agenda 2000, which will narrow the EU-world price gap not only for beef and dairy, but indirectly for pork, poultry, and eggs by reducing feed grain prices.

The EU-world price gap for beef is projected to fall most relative to 1995-97 levels, from nearly 100 percent to slightly more than 20 percent in 2004. This is due not only to the 20-percent intervention price cut for beef under Agenda 2000, but also to projections of a falling EU market price (OECD price projections). As a result, there is a marked increase in the wateriness of the EU's beef tariffs.

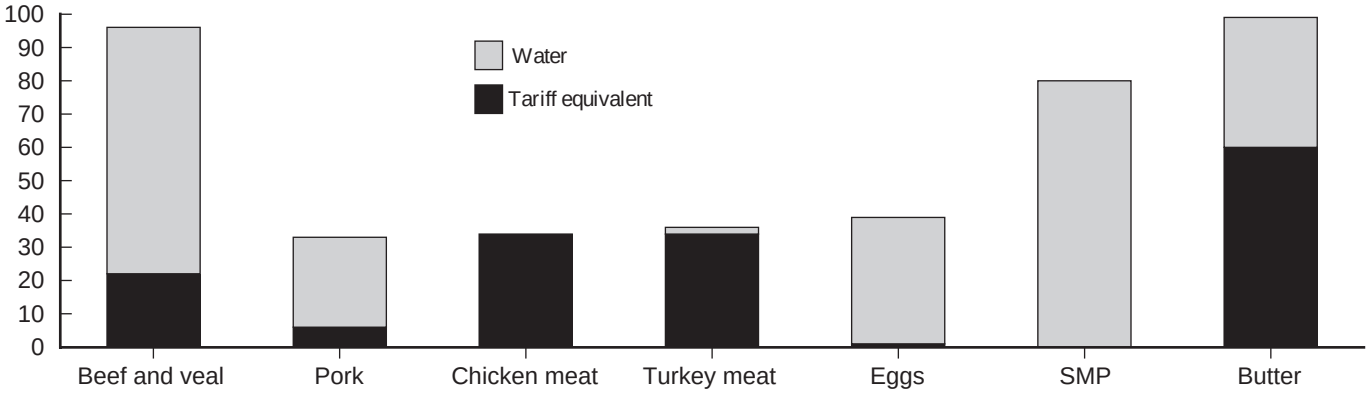
While lower Agenda 2000 grain intervention prices will reduce EU costs for poultry feeds, this only partly offsets the projected widening of the EU-world price gap for broilers. Combined with full Uruguay Round tariff reductions, the water in EU import tariffs for poultry meats is expected to decline substantially relative to the 1995-97 base period.

For SMP, butter, pork, and eggs, the water in the tariff is projected to decrease as a result of the final Uruguay Round tariff cuts, but not disappear. The most water remains in the EU's SMP tariff, which will be much higher than needed to make up the difference between the projected convergence of EU and world prices.

Agenda 2000 alleviates pressure on the CAP in terms of market access within WTO constraints because it increases "water" in the tariffs. To the extent that Agenda 2000 paves the way for CEE enlargement, less pressure on the CAP is evident than without Agenda 2000. With or without enlargement, Agenda 2000 provides the EU with more negotiating room than without Agenda 2000.

Figure 12
Water in EU Tariffs after Agenda 2000

Percent *ad valorem*



Source: Economic Research Service, USDA.

Price Support Reductions Take EU Far Below Domestic Support Ceiling

Under the URAA, developed countries committed to reducing their Aggregate Measurement of Support (AMS) 20 percent from the base period level by 2000/01. The AMS includes all forms of support that distort production or trade, and the reduction commitment relates to the total value of domestic support aggregated across all commodities, rather than to individual commodities or commodity groups.

During the GATT trade negotiations, a traffic light analogy was used to rank policies under "Amber," "Blue," and "Green" boxes, according to their potential to distort production and trade. The Amber Box includes production and trade-distorting policies such as market price support, direct payments, and input subsidies, and is subject to the reduction commitment. The primary component of non-exempt EU domestic support is market price support.

The Blue Box includes policies viewed as acceptable, but transitional measures that would help pave the way for further reforms over time. Direct payments to farmers that are based on historically fixed formulas for support, and which are linked to a production-limiting program, are eligible for the Blue Box. This category includes the EU's direct income support (compensatory) payments.

Finally, the Green Box includes policies that are considered to be minimally distorting to production and trade, and is exempt from the reduction commitment. For more information, see the ERS WTO Briefing Room (www.econ.ag.gov/briefing/wto/), in particular Nelson et al., and Sheffield et al.

How will the Agenda 2000 reforms affect the EU's level of domestic support, as measured relative to its Uruguay Round commitments? The Agenda 2000 package agreed to in Berlin in March 1999 represents a continuation of the shift away from price support towards income support (compensatory payments), begun by the MacSharry CAP reforms in 1992. As such, the Agenda 2000 reforms will reduce the level of the EU's Amber Box price supports and increase the level of its Blue Box income supports.

Market price support is calculated as the difference between the intervention price and a fixed reference price, multiplied by the quantity eligible for support. Intervention prices under Agenda 2000 and projections of EU production and area harvested from the European Simulation (ESIM) model are used to estimate EU market price support and direct payments in 2005/06. The products analyzed in this article are grains (including common wheat, durum wheat, barley, corn, rye, oats, sorghum, triticale, and rice), beef, SMP, and butter. These products are selected because they represent the majority of the expenditure on CAP products and because they are of interest to the United States. It is assumed that price support for products not affected by Agenda 2000— sugar, tomatoes, apples, and wine— remains at the 1995-97 average of 22.3 billion euros.[6]

EU market price (Amber Box) support is projected to fall 29 percent to 35.0 billion euros, due to the cuts in intervention prices for beef, grains, and dairy under Agenda 2000 (table 10). The gap between the EU and the external reference price will fall, although a positive price gap (relative to the URAA-fixed reference price) is projected to remain for all products except durum wheat and oats. Although production of grains under Agenda 2000 is projected to rise, overall market price support for grains falls because of the smaller price gap.

Lower support prices for beef account for much of the drop in EU market price support. The current market support price for beef (2,780 euro/mt) will be reduced by a total of 20 percent over 3 years to 2,224 euro/mt in 2002; this new price being called the basic price.[7]

In contrast to the fall in Amber Box payments, the EU's Blue Box (partially decoupled direct support—see glossary) payments under Agenda 2000 are projected to rise to 26.3 billion euros by 2008, due to increases in arable crops payments as well as beef premia (table 11). The EU's set-aside payment under Agenda 2000 will rise because the payment rate per hectare for grains increases from 54 euros to 63 euros per ton. The model results (see Leetmaa and Bernstein in this report) show that EU area harvested to grains increases 3 percent relative to 1995-97 levels. The increase in compensatory payments for grains is expected to be partly offset by declines in payments for oilseeds because; 1) the pay rate per hectare for oilseeds decreases from 94.24 euros to 63 euros per ton, and 2) the pay rate per hectare decreases on EU set-aside land for oilseeds from a current value of 68.83 euros per ton to 63 euros per ton (EU Commission, March 1999).

The best available estimate of the projected increase in EU beef premium payments is based on the EU Commission's financial impact analysis of October 1998 (EU Commission, 1998), which will be revised later this year to incorporate final changes. According to the Commission analysis, Common Budget outlays for beef will rise 2.0 billion euros due to increased headage payments. It is necessary to add an amount representing the decrease in budgetary outlays as a result of the expected reduction in EU export subsidies for beef as well as intervention storage. These reductions amounted to an estimated 0.5 billion euros, based on recent levels of EU beef export subsidies and intervention stocks.

For a transitional period under the Uruguay Round, the Blue Box is not measured against the domestic support ceiling, so

[6] Although Agenda 2000 repeals several regulations on wine, it does not significantly alter the system of intervention prices.

[7] The current EU intervention price for beef is 3,475 euro/mt so the reduction from the intervention price to the basic price represents a decline of 36 percent. However, the EU *intervention* price is the highest administrative price for beef and is not reflective of actual market price support in the EU.

Table 10--Agenda 2000 scenario for AMS in 2005/06

Commodity	Applied admin. price (1)	External refer. price (2)	Eligible production (3)	Assoc. fees/levies (4)	Total AMS, Agenda 2000 = [(1)-(2)]*(3) - (4)	Total AMS, unchanged CAP
	Euros/ton		Mil. Tons		Million euros	
Common wheat	101.3	86.5	99.4		1,473.2	3,070.4
Durum wheat	101.3	148.5	8.9		0.0	0.0
Barley	101.3	67.3	52.7		1,792.9	2,683.2
Maize	101.3	91.9	37.5		353.3	988.3
Rye	101.3	67.3	6.4		218.9	316.7
Oats	97.2	112.5	6.8		0.0	12.3
Sorghum	101.3	85.7	0.6		9.4	19.1
Triticale	101.3	67.3	3.7		124.3	179.8
Rice	373.8	143.3	1.8		414.9	414.9
White sugar	631.9	193.8	14.2	457.5	5,763.6	5,763.6
SMP	1,746.9	684.7	1.3		1,327.8	1,713.1
Butter	2,789.7	943.3	1.8		3,323.5	4,209.7
Beef	2,224.0	1,729.8	7.5		3,706.5	13,263.5
Subtotal					18,508.0	32,634.6
Other AMS					16,539.0	16,539.0
Current Total AMS					35,047.0	49,173.6

Souce: ESIM and CAP Monitor.

Table 11--EU Blue Box payments in 2005/06 under unchanged CAP and Agenda 2000 scenarios

Commodity	1995/96	1996/97	Baseline	Agenda 2000
		Million euros		
Maize	973.0	1,222.8	1,097.6	1,359.2
Other cereals	8,638.6	10,001.2	9,004.4	11,103.9
Oilseeds	2,381.0	2,439.4	2,414.9	1,740.1
High protein crops	522.7	525.0	523.9	487.7
Flax seed	72.4	96.5	84.5	98.5
Durum wheat	948.3	1,827.8	1,351.8	1,439.5
Set-aside land:				
Compensation	2,112.1	1,080.6	5,587.2	2,922.3
Beef sector	3,876.6	3,320.9	3,550.8	6,088.8
Suckler cows	2,446.4	2,042.9	2,244.7	
Male bovine	1,407.2	1,238.5	1,274.9	
Deseazonalization	23.0	39.5	31.3	
Ewe/goats	1,320.8	1,006.6	1,163.7	1,163.7
Total Blue Box	20,845.5	21,520.8	24,778.8	26,403.6

Souce: ESIM and Eurostat.

that countries are deemed to meet their commitment if their Amber Box price support lies beneath this ceiling. While the EU's ceiling will reach 65.1 billion euros from 2000/01 onwards, the EU's Amber Box is projected to fall to 35.0 billion euros. As long as the transitional provisions apply, there will clearly be no pressure on the EU's ability to support domestic market prices or make compensatory payments to farmers.

Volume Ceilings Expected To Bind EU Export Subsidies for Some Products

How does Agenda 2000 affect the EU's ability to meet its export subsidy commitments, relative to its ability to do so under the current CAP? The analysis is limited to grains and livestock products (including meats, eggs, and dairy products), as Agenda 2000 does not alter the regimes for other subsidized products including sugar, fruits and vegetables, and olive oil.

Based on EU export subsidy outlays in 1995/96 and 1996/97 (notified to the WTO), a comparison with final commitments (from 2000/01) suggests that under the current CAP policies, the EU's final value commitments would likely exceed the ceiling for beef, rice, and other dairy products, and could also exceed the ceilings for cheese and poultry meat, while the EU's final volume commitments would most likely exceed the limits for coarse grains, cheese, other milk products, beef, and poultry meat.

The ratio of subsidized exports to total exports and the value of the per unit subsidy as a percentage of product price are other important factors that determine how binding the EU's export subsidy ceilings are under the current CAP and may be after implementation of Agenda 2000 reforms. The volume of EU exports subsidized as a percentage of total—i.e., both subsidized and unsubsidized—exports averaged more than 80 percent for coarse grains, rice, butter, SMP, cheese, other milk products, beef, and eggs. From the EU's notifications, average export subsidies per unit indicate that EU-world price gaps in 1995-97 were highest in percentage terms for coarse grains, rice, butter, and beef. Commodities requiring the highest subsidy per unit (as percentage of price) indicate that the volume restriction will be most binding.

Agenda 2000's lowering of intervention prices for grains, beef, SMP, and butter will result in lower EU market prices, and lessen the need for export subsidies to bridge the price gap with world markets. The analysis of Agenda 2000 (see Leetmaa and Bernstein) concludes, however, that the EU will continue to need subsidies to export most of its agricultural products.

One effect of Agenda 2000 on the EU's WTO commitments is that under the lower intervention prices, the URAA volume restrictions will play an increasingly important role in limiting the EU's use of export subsidies. The lower Agenda 2000 prices will reduce the average export subsidy value per unit for those products directly affected under the reform package, as well as pork, poultry, and eggs through lower feed costs. The trend of volume restrictions being most binding compared to value restrictions was already observable in the 1995-97 EU notification data for grains, meats, and dairy products, and this trend will be accentuated under Agenda 2000.[8]

The estimates suggest that for wheat and eggs, the EU will need no or minimal export subsidies because of high world prices for these commodities (table 12). For other products, however, the EU will still require subsidies to export at least a portion of production. The highest dependence on export subsidies, in terms of both volume and value per unit, will be for coarse grains, rice, butter, and beef. In 1995-97, nearly the entire quantity exported of these products relied on export subsidies. After Agenda 2000 reforms are implemented, the estimated average subsidy as percentage of product price ranges from 10 percent for barley to 75 percent for rice. To a lesser extent, the EU will also remain dependent on export subsidies for SMP and cheese, which in 1995-97 were highly subsidized in terms of the percentage of total export volume, but which were given a low average subsidy expressed as a percentage of product price.

Based on calculations of post-Agenda 2000 per unit export subsidies, the volume commitment is estimated to be exceeded first for all products except rice.[9] In other words, at the lower per unit subsidies required to export under Agenda 2000 prices, the EU is expected to meet its volume ceiling before it can spend the total amount permitted under its value ceiling. This will happen most quickly for barley, SMP, pork, and cheese, but also for the remaining subsidized products.

EU Enlargement Has Only Marginal Effect on WTO Commitments

Extension of the CAP in its current form to countries of Central and Eastern Europe (CEE) is expected to result in higher production of most commodities compared to the CEE countries outside of the CAP because of higher CAP prices. These production increases may be difficult to absorb internally, placing pressure on EU internal prices and thus the EU's ability to meet its domestic support and export subsidy reduction commitments. How are these issues resolved under Agenda 2000's changes to the CAP? The accession of Poland, Hungary, and the Czech Republic—the largest producers slated for early accession—could allow the EU to export more product without subsidy for some products under the Uruguay Round, but the overall effect is marginal. Although EU domestic support levels will increase as a result of enlargement, the EU is expected to remain far below its AMS ceiling, thanks in part to lower prices under Agenda 2000.

The impact of the membership of Poland, Hungary, and the Czech Republic is calculated vis-a-vis the EU's Amber and Blue Boxes, using ERS enlargement scenario modeling results for 2005/06 for principal commodities (grains, oilseeds, meats, and eggs) and 1996 production data for non-modeled products that are significant to the analysis (butter, SMP, sugar, apples, and tomatoes). One additional assumption required is about the terms of accession, which are still uncertain. It is assumed these CEE countries will benefit from the CAP's arable crop compensatory payments and the various beef sector premia.

Poland, Hungary, and the Czech Republic's membership in a CAP reformed by Agenda 2000 is estimated to result in 4.1 billion euros of additional Amber Box market price sup-

[8] High world prices for grains in 1996-97 also influenced this result.
[9] Calculations are available from author upon request.

Table 12--Average export subsidy per unit: Comparison of 1995/96-1996/97 to Agenda 2000

Commodity	1995	1996	Agenda 2000	1995	1996	Agenda 2000
	Euro per ton			Percent of price		
Wheat and flour	43	22	0	29	16	0
Barley	46	33	15	34	27	15
Oats	46	33	15	31	26	16
Rice 1/	342	319	330	77	79	78
Butter/butter oil	1,750	1,999	1,382	53	61	50
Skim milk powder	584	631	299	28	31	17
Cheese	1,036	675	396	29	18	12
Bovine meat	1,478	1,297	874	56	51	42
Pigmeat	266	249	161	19	15	11
Poultry meat	277	182	167	23	13	13
Eggs	136	102	22	14	9	2

1/ As Agenda 2000 does not affect the intervention price for rice, it is assumed that the average export subsidy per unit remains constant.
Intervention prices are used for grains, SMP, and butter. The beef price is estimated to fall 20 percent below the 1995-97 market price. Pork, poultry, and egg prices are estimated to fall 5-8 percent (due to lower feed costs) relative to the 1995-97 base period.

Souce: Agenda 2000 scenario results.

port (table 13) and 3.0 billion euros of Blue Box direct payments (table 14). The additional Amber Box support mostly comes from CEE production of grains, butter, apples, and sugar. This results in a projected EU-18 AMS of 38.3 billion euros that falls well below the combined EU-18 ceiling, estimated at 68.5 billion euros (based on exchange rate projections). Therefore, EU enlargement has a negligible effect on the EU's ability to meet its URAA domestic support ceiling. (Effects including the Blue Box are discussed in the following section on "WTO Pressures for EU Policy Change".)

What effect is the prospective enlargement to include the CEE countries expected to have on the EU's ability to meet its export subsidy commitments? For products not subject to intervention, the issue is whether enlargement gives the EU more or less flexibility in using export subsidies. For products subject to intervention, enlargement also has the potential to aggravate intervention stocks. High EU intervention prices could stimulate supply and depress demand in the CEE countries, creating excess supply on the enlarged EU market in need of disposal.

Except for 1995 when Hungary overshot its export subsidy commitment for corn, WTO notifications indicate that all three countries have applied export subsidies for nearly all products far below their ceilings. Combined CEE export subsidy ceilings are highest for meats, followed by those for fruits and vegetables (table 15). The CEE allowances could more than double an enlarged EU's ceiling for fruits and vegetables, and could significantly increase the EU ceilings for pork and poultry meat. For grains, however, adding the CEE ceilings to the existing EU-15 ceiling has little effect. For dairy products, only the EU's export subsidy ceiling for SMP will increase significantly (roughly 50 percent).

When the EU enlarges to include CEE and other Eastern countries, the EU's export subsidy ceilings will be increased by the amount of the acceding countries' ceilings, net of

Table 13--Amber Box under Agenda 2000 and enlargement for CEE countries

Commodity	Applied admin. price (1)	External refer. price (2)	Poland	Hungary	Czech	EU-18 (3)	Total market price support = [(1)-(2)]*(3)
	Euros/mt.			Million tons			Mil. euros
Common wheat	101.3	86.5	9.1	5.1	4.0	18.2	269.7
Durum wheat	101.3	148.5				0.0	0.0
Barley	101.3	67.3	3.4	1.4	2.5	7.3	248.3
Maize	101.3	91.9	0.2	5.5	0.2	5.9	55.9
Rye	101.3	67.3	7.0	1.7	0.3	8.9	301.9
Oats	97.2	112.5		1.7	0.3	1.9	0.0
Sorghum	101.3	85.7		1.7		1.7	26.2
Triticale	101.3	67.3	7.0	1.7		8.6	293.4
Rice	373.8	143.3				0.0	0.0
White sugar 1/	631.9	193.8	0.4	0.6	0.7	1.7	735.2
SMP	1,746.9	684.7	?	?	?	0.0	0.0
Butter	2,789.7	943.3	?	?	?	0.0	0.0
Beef	2,224.0	1,729.8	0.4	0.1	0.3	0.9	425.0
Subtotal							2,355.6
Other AMS (assumed 5 percent increase from EU-15)							827.0
Total Current AMS, EU-18							3,182.6

1/ Sugar production data are for 1997, taken from CEE statistical yearbooks. Sugar beet production is multiplied by 16 percent sugar yield and multiplied by 92 percent average extraction rate to arrive at white sugar production.

Souce: CAP Monitor and CEE statistical yearbook.

Table 14--Estimated Blue Box payments under Agenda 2000 in the CEE countries

	Arable crops				Beef				
	Arable base area (1)	National compens (2)	EU-15 grain yield (3)	CEE comp. payments (4)=(1)*(2)*(3)	CEE slaughter (5)	EU-15 slaughter (6)	EU-15 comp. payments in 2005 (7)	CEE comp. payments estimate (8)=[(5)/(6)]*(7)	CEE Blue Box total =(4)+(8)
	Mil ha.	Ecu/ton	Tons/ha.	Mil. euros	Mil. head			Mil. euros	
Poland	9.1	63.0	2.3	1,318.6	2.8	28.3	6,088.8	605.6	1,924.2
Hungary	3.3	63.0	2.3	478.2	1.0	28.3	6,088.8	215.0	693.2
Czech Republic	1.9	63.0	2.3	275.3	0.6	28.3	6,088.8	136.3	411.6
Total CEE				2,072.1				956.9	3,029.0

The 2005/06 projections of production are made under the assumption of no CAP membership. Because CAP membership is expected to result in higher production of most commodities, these projections provide a conservative estimate of the increase to the EU s Blue Box as a result of CEE accession.

Souce: Economic Research Service, USDA.

subsidized trade between the EU and CEE.[10] To analyze the impacts for both non-intervention and intervention products, model projections of CEE exports are compared to additional export subsidy ceilings that the EU would acquire as a result of enlargement, net of historically subsidized EU exports to the CEE countries. Given the result (see previous discussion on export subsidies) that the EU's volume ceilings are expected to bind first under Agenda 2000, the analysis focuses on an enlarged EU's volume ceilings. Net exports are used for relatively homogeneous products like grains, SMP, butter, and eggs, while gross exports are used for heterogeneous products like meats. Results are listed in table 16.

Non-intervention products (pork and poultry). EU prices for pork and poultry are not much higher than world market levels and only high-cost EU producers require export subsidies for these products. The question is whether the CEE countries can remain low-cost producers after accession (see Cochrane article). CEE ceilings for pork and poultry, net of historically subsidized trade, are less than projected export levels, with the potential to give the EU less flexibility in meeting its commitment. However, if the CEE countries remain low-cost pork producers and do not require export subsidies (as is presently the case), the ceilings will add a measure of flexibility in meeting the EU's overall commitment.

Intervention products (grains, beef, SMP, butter). It is likely that CEE accession will marginally ease the pressure on an enlarged EU's export subsidy ceilings for coarse grains. The model results show that the CEE countries will remain net importers of barley and other coarse grains (nearly 1 million tons). While enlargement is estimated to actually reduce the EU's export subsidy ceiling for coarse grains by almost 0.3 million tons (due to the fact that most EU coarse grain exports to the CEE countries are subsidized), the CEE countries are projected to remain net importers of more than 0.8 million tons in 2005/06, so that the EU will have more flexibility meeting its commitment for coarse grains. On the other hand, enlargement is likely to give the EU less flexibility in meeting its beef ceiling: projected gross CEE exports of beef are more than 70,000 tons over the additional EU export subsidy ceiling, net of subsidized trade. Although CEE beef production is restrained through the adoption of EU dairy quotas, large price increases drive down consumption, creating greater CEE surpluses.

For dairy products, the CEE countries will be subject to milk production quotas under the CAP, which effectively limit growth in their production of SMP, butter, and cheese. Although CEE exports were mostly unsubsidized in 1995-97, the high EU price for SMP will increase the reliance of Polish and Czech exports on subsidies. Because CEE surpluses of SMP and butter exceed their volume ceilings (none of the countries has a ceiling for butter), it is expected that CEE accession will increase pressure on an enlarged EU's ability to meet its SMP and butter export subsidy commitments.

Other products (fruits and vegetables). With respect to fruits and vegetables, combined CEE ceilings exceed that of the EU. Because the current EU's ceilings have already become binding, this extra amount should give an enlarged EU an additional measure of flexibility. However, adoption of the CAP system of price supports for fruits and vegetables is expected to result in higher prices for these products

[10] E.g., as was done following the 1995 accession of Austria, Finland, and Sweden.

Table 15--EU-15 and CEE export subsidy volume commitments

Commodity	EU-15	Poland	Hungary	Czech Republic	EU-18	Percent change EU-18/EU-15
			1,000 tons			
Wheat and flour 1/	13,826		1,141	66	15,033	9
Coarse grains 2/	9,126		164		9,290	2
Sugar	1,032	104	32	5	1,173	14
Butter/butter oil	324				324	0
Skim milk powder	222	37		67	326	47
Cheese	286				286	0
Other milk products 3/	788	15	2	63	867	10
Bovine meat 4/	728		83	50	860	18
Pigmeat 5/	359	81	126	10	576	60
Poultry meat 6/	297	13	111	23	444	49
Eggs	84				84	0
Wine (1000 liters)	1,895		41	4	1,939	2
Fruit and vegetables	727	494	284	9	1,513	108

1/ Cereals and flour for Czech Republic.

2/ corn for Hungary.

3/ commitment for Poland is casein.

4/ includes cattle for slaughter for Hungary.

5/ includes hogs for slaughter for Hungary; "meat" and "meat products" for Poland.

6/ broilers for Hungary; includes poultry products and eggs for Czech Republic.

Source: EU, Poland, Hungary, and Czech Republic WTO Schedules.

Table 16--Net impact on CEE export subsidy ceilings following enlargement, 2005/06

Commodity	EU-18 exports (1)	EU-15 exports (2)	Difference (3) = (1) - (2)	CEE ceilings (4)	Minus subsidized EU exports to CEE 4/ (5)	Net change in EU-18 export subsidy ceiling (6) = (4) - (5)	Compare (3) to (6)	Ending stocks, 2005/06 EU-18	EU-15	Difference
					1,000 tons					
Barley 1/	6,715	7,168.5	-454	82	297	-215	more flexible	7,788	7,052	736
Other coarse grains 1/	607	990.0	-383	82	123	-41	more flexible	14,625	13,848	777
SMP 2/			162	104	0	104	less flexible	0	0	
Butter 3/			41	0	2	-2	less flexible	0	0	
Beef	759	574.0	185	133	18	115	less flexible	310	220	90
Pork	1,527	888.8	638	217	19	197	potentially less flexible	319	239	80
Poultry	1,048	903.2	145	147	10	136	potentially less flexible	305	260	45
Eggs	-223	20.8	-244	***			more flexible	64	35	29

1/ The EU has a combined ceiling for barley and other coarse grains. Thus for accounting purposes, the CEE ceiling is split evenly across the two products.

2/ CEE exports of SMP are averaged for 1995-96 in column (3), using export subsidy notification data (ES:1 Total Exports).

3/ CEE exports of butter are from statistical yearbook data.

4/ Subsidized EU exports to CEE are calculated as total EU exports to CEE (source: UN trade data, average 1995-97) multiplied by the ratio of subsidized to total EU exports of the given product (source: EU export subsidy notifications for 1995-96). Net exports for grains, dairy products, eggs; gross exports for beef, pork, poultry.

*** Czech Republic has 23,000 tons combined for poultry meat and eggs.

Souce: Economic Research Service, USDA.

in the CEE countries, so that subsidies may be required for Polish, Hungarian, and Czech exports.

WTO Pressures for EU Policy Change and Implications for the Next Round

The EU's market access and domestic support commitments under URAA are not expected to place pressure on EU intervention prices. EU tariffs will remain sufficiently high to insulate the EU from world markets, allowing it to maintain its intervention prices at Agenda 2000 levels. Additionally, the persistence of water in the EU's tariffs results in no expansion of EU market access as a result of URAA tariff reductions, with the exception of chicken meat. EU domestic support reduction commitments are easily met, given that Blue Box direct payments are not measured against the ceiling.

The EU's export subsidy ceilings are expected to bind for coarse grains, SMP, cheese, beef, and poultry meat. However, WTO export subsidy ceilings create pressure on internal balances only where the EU is faced with the long-term accumulation of intervention stocks. According to Agenda 2000 results from the ESIM model and the analysis, stocks of barley, beef, butter, and SMP will fall or come into balance by 2006. The accumulation of intervention stocks is expected to be a problem for other coarse grains, particularly rye, although barley consumption will lower stocks. However, because Agenda 2000 price cuts in most cases do not go far enough to make the EU competitive on world markets, the EU's export subsidy ceilings for coarse grains, dairy products, and beef will limit its ability to tap into new opportunities associated with growing world food demand. Increasing EU competitiveness is frequently cited as a main goal of Agenda 2000, and it will likely be evoked in following rounds of CAP reform until price supports are sufficiently lowered.

Where do Agenda 2000 and prospective eastward enlargement place the EU in terms of its ability to agree to further agricultural trade liberalization? There is not expected to be significant expansion of EU imports, so that substantial EU tariff reductions from final URAA bindings will be needed for dairy, beef, pork, and eggs before an increase can be expected in EU market access. Except for periods of very high world prices, the EU's reference price import system for grains will continue to prohibit imports of other than high-quality grades, such as premium milling wheat and malting barley. Therefore in the upcoming WTO round, the EU could agree to large reductions in tariffs across the grains, livestock, and dairy sectors.

The EU could also agree to a substantial reduction in its domestic support ceiling in the upcoming round of trade talks. The projections show that this reduction could be 50 percent or greater before the EU would feel any pressure to change its domestic support policies. However, the exempt status of Blue Box payments may change in the upcoming round, as some countries are calling for an end to this transitional arrangement. On the other hand, the EU's augmented use of Blue Box payments under Agenda 2000 is likely to increase its reluctance to eliminate the exempt status of the Blue Box. The EU's compensatory payments do not qualify as minimally production-distorting (Green Box), because they are not fully decoupled from the farmer's decision to produce, and therefore will continue to be classified under the Blue Box.

Removing the exempt status of the Blue Box would increase pressure on the EU's domestic support ceiling. However, if the Blue Box is included in the measurement, it is likely that the EU would still be able to meet its URAA domestic support ceiling, because Agenda 2000 reforms are projected to bring the EU's combined Amber and Blue Box payments

Estimating Water in EU Tariffs For Selected Agricultural Products

The EU's tariffs for meats, eggs, and dairy products are examined to determine whether they are prohibitive; i.e., larger than needed to make up the difference between the EU domestic price and the world import price. The EU-world cif price difference for a product is defined as the "tariff equivalent," or T^e. The extent to which a tariff is prohibitive can be described as the difference between the applied tariff, To, and the tariff equivalent, or $T^o - T^e$. This difference is described as the "water" in the tariff, T^w. In other words, an applied tariff is watery to the extent it exceeds the tariff equivalent.

Methodology

The methodology used to calculate the "wateriness" of an EU over-quota MFN tariff for a given year is the following:

1. Calculate the tariff equivalent, T^e, defined as the percentage difference between the EU domestic price and a representative world price inclusive of transport costs (where a cif value is not available, a 10-percent transport margin is added);

2. Calculate the water in the tariff, T^w, by subtracting the tariff equivalent from the *ad valorem* over-quota tariff, T^o, which is aggregated across sub-products as a simple average. EU specific tariffs (per kilogram basis) are converted to *ad valorem* equivalents using Eurostat import unit values.

3. Check the wateriness of the tariff—calculated in (2) above—by comparing Eurostat import data to TRQ volumes. The aim is to verify whether in fact the EU imported only in-quota at the reduced tariff, or over-quota at the higher tariff. In theory, a watery over-quota tariff signifies that the tariff was prohibitively high. Therefore, if the calculation for a product suggests that there was water in the tariff, the import data for that product should show that the EU did not import over-quota. For meats, there is another reason why it is necessary to cross-check a water calculation with import data. Because the price data for meats reflect carcass prices at a wholesale or farm gate equivalent level, some processing costs—such as deboning cuts of meat—are not captured in the tariff equivalent calculation. Another reason it is advisable to take step (3) is related to the high level of product aggregation involved in estimating the tariff equivalent. Because a country may have "tariff peaks" within a given aggregation, the margin of water could vary by sub-product, it could be importing some products over-quota but not others. One implication for the upcoming WTO trade talks: It may be necessary to reduce some tariffs more than others to eliminate any margin of water.

4. For Agenda 2000: The water in EU tariffs under Agenda 2000 is estimated by adjusting EU price projections to reflect Agenda 2000 price cuts. Changes in EU pork, poultry, and egg prices reflect price declines in the ESIM Agenda 2000 scenario relative to ERS baseline projections. Changes in the EU's applied tariffs are the most straightforward part of the analysis, as they are contained in the EU's Uruguay Round commitments. Changes in the tariff equivalent (i.e., the projected EU-world cif price gap) depend on EU and world trends in supply and demand, Agenda 2000 price cuts, and exchange rate projections. Trends in supply and demand are captured by the OECD and ERS price projections through 2004; these prices are then modified by amounts corresponding to Agenda 2000 price cuts.

Average export refund data from the EU's WTO notifications can also be used as a measure of the gap between EU and world market prices (Tangermann, 1999). However, this method is less useful, because it doubly underestimates the water in the tariff. First, because exporters must factor the cost of shipping into their subsidy bids, the export subsidy overestimates the gap between EU and world price. Second, the export subsidy does not account for the world price fob – cif differential. One way these shortcomings could be addressed is to subtract transport costs for the EU fob-cif price differential and for the world fob-cif price differential from the average export subsidy. Average EU export subsidy data are used in this article only as a second check against the results.

Data Sources

Price data are from OECD, the 1999 ERS Baseline, IMF International Financial Statistics, and the EU Commission. Import data and import unit values for 1995-97 are compiled from Eurostat. EU applied and bound tariffs are from UNCTAD. The EU's TRQs come from country schedule CXL, notified to the WTO; additional TRQs were compiled from the EU's preferential agreements with Central and Eastern European countries (Europe Agreements), African Pacific and Caribbean countries (Lome Convention), and Mediterranean countries (Euro-Med Agreements).

OECD-PSE price calculations are less suitable than a carcass price to calculate the wateriness of tariffs for cuts of meat. Producer subsidy equivalent (PSE) prices are weighted averages meant to capture support across an entire sector. The methodology for calculating this weighted average may vary across countries. Therefore, it is more suitable to use a dressed weight market price.

below this level. Because the last two rounds of CAP reform have reduced market price support more than they have increased direct payments, further CAP reform along those lines would have the same effect of reducing the overall level of EU domestic support. If the EU further reduces its applied administered prices for major commodities such as grains and dairy, the EU could agree not only to making the Blue Box non-exempt, but also to a certain reduction in its domestic support ceiling.

In the area of export subsidies, it appears that although the EU's volume ceilings may be binding for a number of products, they will present a real problem of chronic excess supply in grains only for rye. Given the projection of rising rye intervention stocks, this WTO pressure may require further cuts in the EU's grains intervention price, or a departure from a unified grains price by lowering the rye price. On the other hand, the EU will likely be able to agree to substantial reductions in its export subsidy ceilings for wheat, pork, poultry, and eggs. Although the EU will continue to require export subsidies for beef, the projections show a roughly balanced EU market for beef, indicating that the accumulation of unexportable intervention stocks is not on the horizon.

The prospective EU enlargement to Poland, Hungary, and the Czech Republic does not greatly alter the picture. With respect to domestic support, the combined increase in EU Amber and Blue Box support is greater than the CEE combined final AMS ceilings of approximately 3.4 billion euros (based on 1999 USDA Baseline exchange rate projections). If the Blue Box is measured against the EU's AMS ceiling, the CEE accession could make it somewhat more difficult for an enlarged EU to meet its URAA domestic support commitments, as combined EU Amber and Blue Box support, at 68.4 billion euros, is expected to be very close to the final ceiling of 68.5 billion euros.

Enlargement to CEE is expected to give the EU more flexibility in meeting its export subsidy ceilings for coarse grains, but it could increase pressure on the EU's export subsidy ceiling for beef, dairy products, pork, and poultry. For market access, acceding CEE countries will adopt the EU's tariff schedule. The most important implication for the United States and other trading partners will be to negotiate compensation for exports lost to acceding countries as a result of higher tariff bindings. Compensation, if properly calculated, should have a neutral effect on U.S. exports.

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